The Government Finances Shock Proof

A risk analysis of Dutch public finances

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Summary

Compared with other countries, public finances in the Netherlands are in good shape.This is partly due to the good initial position on the eve of the crisis. At the same time, Dutch public finances have also worsened considerably during the economic crisis. Sovereign debt has increased substantially, partly as a result of interventions in the financial sector, and the government has issued various guarantees. In addition, the world economy is extremely volatile at the moment. The Netherlands – as an open economy with a large financial sector and as a member of the integrated eurozone – is inherently vulnerable to external shocks.

The aim of this analysis is to offer insight into the development of public finances in exceptional circumstances. The analysis focuses on major financial and economic shocks and takes into account correlations between various risks. The report looks at the direct fiscal impact of an economic downturn, and also considers the possible indirect impact if government guarantees are triggered or if intervention in the financial sector proves necessary.

The Shock Proof reveals that the fiscal and economic impact of a new crisis could be significant. Three simulations show a severe impact on economic growth and sovereign debt. In the simulations, the debt level far exceeds the 60%-limit from the EU-Treaty and approaches or even exceeds the 90%-limit associated with lower economic growth. However, the debt level of the Netherlands remains below that of many other rich countries because of the better initial position. These simulations should definitely not be seen as forecasts, but rather as a reasoned estimate of the possible impact of fictional shocks.

The unpredictability of crises underlines the importance of a good initial fiscal position and good risk management in order to ensure the capacity to absorb future shocks, whatever they may be. The government is working to create that budgetary scope by implementing a €18 billion consolidation package. Moreover, the government has launched a raft of measures in the last year to manage and reduce the risks involved in the financial sector and restore the stability of the euro area. As set out in the Budget Memorandum 2012, there is a close relationship between sound public finances and a strong economy. Accordingly, the government will pursue measures to strengthen the capacity of the Dutch economy for growth.

1 Introduction

Sovereign debt has increased enormously in many countries as a result of the crisis. The average debt ratio in OECD countries exceeds 100% of GDP, lowering the buffers to absorb further setbacks. A number of European countries and US states are experiencing difficulties to finance their debt levels and the credit ratings of some countries have seen revised downwards. The Netherlands belongs to the select group of countries with a very high credit rating and is therefore able to finance its sovereign debt relatively inexpensively. The Dutch debt ratio in 2011 is approximately 65% of GDP, which is more than 20% higher than when the crisis began.

It is against this background that the Budgetary Scope Study Group issued its recommendations to the government on fiscal policy during the government's term in office.[1] In its report 'Risks and Certainties' (*Risico's en Zekerheden*), the Study Group highlights the increased risk profile of the public sector as a consequence of the financial and debt crises. In this regard, the report points to the possibility of correlations of risks that may negatively impact on the Netherlands' fiscal position. With a view to clearly identifying these risks, the Study Group believes it may 'be useful to analyse the development of the Netherlands' financial position in a number of stress scenarios'.

In its Coalition Agreement, the Dutch government has implemented the Study Group's main recommendations, regarding both the size of the budgetary adjustment and the fiscal rules for the 2011-2015 period. With the current report the government responds to the Study Group's proposal to examine risks to the Dutch budget in greater detail. The Lower House of Dutch Parliament (i.e. House of Representatives) underlined the usefulness of doing so and called on the government to present a risk analysis.[2]

The IMF also referred recently to the importance of 'appropriately designed stress tests'.[3] Various countries already publish a periodic cost-risk analysis of sovereign debt management. In the Netherlands, the government informs Parliament during each government's term about its risk management policies regarding the sovereign debt. Moreover, financial regulators worldwide have conducted stress tests in the banking sector. The IMF has recently advised to bring together existing analyses in a fully integrated approach. The current report is an attempt at such an integrated approach. The analysis considers the possible impact of various shocks on the government debt not only via economic cycles, but also via government interventions and guarantees.

The current economic uncertainty and turmoil on the financial markets underlines the importance of a risk analysis of public finances. In 2010, the Netherlands Scientific Council for Government Policy (WRR) emphasised the importance of not seeing the future as being free of surprises, but rather of explicitly asking whether it is advisable to assume continuity and stability.[4] This

[1] The Budgetary Scope Study Group is a committee existing of high ranked civil servants, the central bank, and the CPB Netherlands Bureau for Economic Policy Analysis, which gives a non-political advice to each new goverment regarding the budgetary policies and targets to be pursued over the government term. See Parliamentary Documents II, 2009/2010, 32 123, no. 52.

[2] Parliamentary Documents II, 2010/2011, 32 500, no. 4.

[3] IMF, 'Managing Sovereign Debt and Debt Markets Through a Crisis, Practical Insights and Policy Lessons', May 2011.

[4] See WRR, 'Outlook: Exploring Future Policy' (*Uitzicht: toekomst verkennen met beleid*). The stress test does not envisage a long-term exploration of the future, but rather a practical analysis of the possible direct effects on public finances of a number of negative shocks.

analysis aimsto broaden the understanding of the development of public finances in the face of negative risks.

Background

In the Netherlands, extensive work has already been done on the budgetary risks and scenario building is common. The Netherlands Bureau for Economic Policy Analysis (CPB) generates various scenario analyses for the Dutch economy, which include the impact on public finances. The Economic Outlook 2011-2015 (*Economische Verkenning 2011-2015*) analyses a number of variants with different rates of economic growth. The population ageing studies conducted by the CPB consider the sustainability of public finances with different assumptions regarding matters such as labour participation, demographics and the discount rate. The CPB also publishes periodic long-term analyses of possible economic development scenarios.[5]

The work of the Budgetary Scope Study Group, which involves the participation of various representatives of government ministries, the CPB and the Dutch central bank (DNB), provides specific insight into the development and sustainability of public finances and the various associated risks. For example, the Study Group's 12th report outlined the impact of negative shocks in exports and consumption on the balance and also includes a sensitivity analysis of the budgetary scope during the next government's term in office. The 13th report provides a comprehensive analysis of the prevailing uncertainities and their consequences for fiscal policy.

The current analysis builds on existing work by considering financial and economic risks to public finances based on experience gained during this crisis, which clearly demonstrated the considerable extent to which risks can be interrelated.[6] The analysis considers the sensitivity of public finances to various conceivable short-term shocks. Information on long-term trends such as the economic competitiveness, developments in taxation and social insurance contributions and population ageing can be found in other previously published analyses.[7]

Structure of the report

Chapter 2 discusses the different risks to public finances in more detail. Chapter 3 presents simulations of a number of fictional financial and economic shocks. Chapter 4 looks at risk management. Given the increased risks of government guarantees, the appendices provide a further elaboration on the modalities of government guarantees.

[5] See the CPB's 'Scanning the Future' (1992), 'The Netherlands in Triplicate: A Scenario Study of the Dutch Economy 1990-2015' (*Nederland in drievoud: een scenariostudie van de Nederlandse economie 1990-2015*) (1992), 'Four Futures of Europe' (2003) and 'The Netherlands of 2040' (2010).

[6] For information about shocks of a non-financial/non-economic nature, see 'National Risk Assessment Scenarios' (*Scenario's Nationale Risicobeoordeling*), Parliamentary Documents 2010/2011, 30 821, no. 12.

[7] See, for example, CPB, 'An Ageing Population Shared Out: The Future of Dutch Public Finances' (*Vergrijzing verdeeld; toekomst van de Nederlandse overheidsfinanciën*), CPB Special Publication 86, 2010, CPB Macro-Economic Outlook 2012 (*Macro-economische Verkenning 2012*) and Chapter 1 of the Budget Memorandum (*Miljoenennota* 2012).

2 Risks to public finances

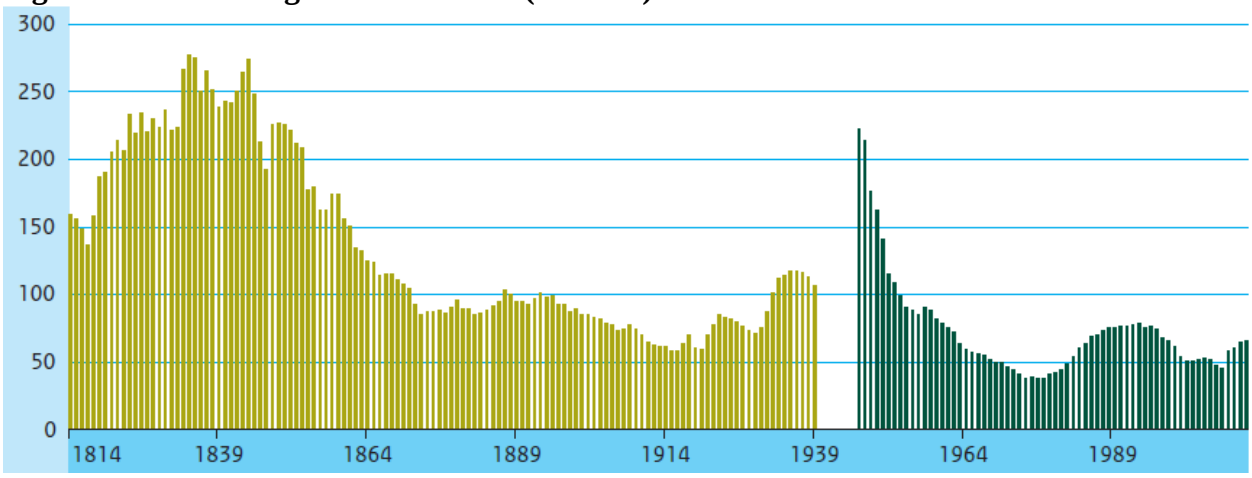
This chapter presents an overview of the risks to the public sector's financial position. After the introduction (Section 2.1), this chapter discusses three ways in which the state of public finances could worsen, namely via the economy (Section 2.2), via interventions in the financial sector (Section 2.3) and via government guarantees (Section 2.4).

2.1 Introduction

Public finances run risks in many different ways. Sometimes it is reasonably possible to foresee those risks, sometimes less so. The current situation is a good example. While it was logical to assume that an economic downturn would follow the boom years, only a handful of people foresaw a systemic crisis in the financial sector. However, regardless of whether we know the risks in advance, we can assume that shocks with a negative impact on public finances will also occur in the future.

The graph below shows the long-term fluctuations in Dutch sovereign debt. History shows that wars in particular lead to a sharp spike in the level of debt. Once in history – at the time of the separation of the Southern Netherlands – this resulted in an exchange operation in which domestic creditors suffered a loss of interest.[8] The graph also shows how periods of economic crisis, including the 1930s, can cause a sharp increase in sovereign debt. That happened again in the current crisis because high levels of private debt were in fact transferred to public hands.[9] The high debt ratio in the 19th century and immediately after the Second World War could be sustained in part thanks to the strong economic growth during those years.

Figure 1 Dutch government debt (% GDP)



Source: CPB, 'Public Sector Finances Time Series' (*Tijdreeksen overheidsfinanciën*) from F. Bos, 2007, CPB Document 150 and the Macro-Economic Outlook 2011

The risk of a sharp increase in debt emphasises the importance of sufficient dynamism and earning capacity in the economy. A private sector with a strong capital base can help to absorb a high level of public debt. Solid economic growth erodes a high level of debt as a percentage of GDP. Sufficient competitiveness enables an export-driven recovery after the economy has taken

[8] According to Reinhart and Rogoff, the Dutch State – in contrast to many other countries – has never defaulted on its obligations. Reinhart and Rogoff, This Time is Different, 2009.
[9] Chapter 2 of the Budget Memorandum 2011 (*Miljoenennota 2011*) analyses how the crisis resulted in an increase in public debt in the western economies.

a hit. In addition to a solid budgetary position in order to absorb a shock and a strict fiscal policy to repair any damage to the budgetary situation, a strong economic structure is therefore extremely important for the financial resilience of an economy. The government can play a role in this regard by creating the conditions for strong institutions as well as a properly functioning labour market and sound physical and knowledge infrastructure.

The fact that sovereign debt is not the only factor determining a country's financial resilience can also be seen in the rating agencies' methods. Standard & Poor's, for example, determines a country's rating based on five factors:[10]

1 A political score, determined by the strength of institutions and the political risks;
2 An economic score, determined by the structure of the economy and the prospects for growth;
3 An external score, determined by external liquidity and the international investment position;
4 A fiscal score, determined by fiscal performance/flexibility and sovereign debt;
5 A monetary score, determined by monetary flexibility.

The methodology applied by the other rating agencies Moody's and Fitch is comparable. Fitch, for example, begins its recent confirmation of the Netherlands' AAA rating by stating that this rating is based on the 'diversity of the economy, the high skill levels, the good employment figures and the high level of income per capita'. Sovereign debt is currently just above the long-term level for an average AAA country, but Fitch refers to the Netherlands' traditional fiscal strength in this regard.[11]

Both home to an open economy with a large financial sector and a country in the euro area, the Netherlands is inherently vulnerable to financial and economic shocks. At the same time, the relatively good fiscal position, the high level of assets, the country's competitive strength and the robustness of its institutions and policy all combine to give the Netherlands substantial capacity to absorb hits. The crisis in the euro area has shown the importance of such a strong initial position. Countries that did not sufficiently safeguard their economic strength and fiscal stability in recent years are now paying the price.[12]

If a country has a strong economy and a healthy initial fiscal position, it is not necessarily a problem if public finances take the hits from some negative shocks. Thanks to a certain capacity to levy taxes and to redistribute expenditure, the government is well placed to take over certain risks and to spread and diversify risks. Public finances can therefore play an important stabilising role. For example, in the current crisis, sovereign debt has increased substantially as a result of interventions in the financial sector in order to safeguard financial stability. It is likely that if the government had not intervened, the consequences for the economy – and ultimately for public finances – would have been much greater.[13]

[10] Standard & Poor's, 'Sovereign Rating Methodology and Assumptions', 30 June 2011.
[11] Fitch, Full rating report Netherlands, July 2011.
[12] See Section 1.2 of the Budget Memorandum 2012 (*Miljoenennota 2012*).
[13] Thanks to the strength of its initial fiscal position, the Netherlands was also able to allow the automatic stabilisers to work and accept a stimulus package in line with international agreements. An assessment of the stimulus measures taken by the previous government can be found in the separate Letter to Parliament published at the same time as the current report.

Box 1 The government's back-up role

The government's stabilising role as 'insurer of last resort' means that excluding risks to public finances is not an aim in itself. Since the government is an integral part of the economy, it is not always possible to prevent negative shocks from affecting the budget. This stresses the importance of healthy public finances in order to absorb future hits, whatever they may be. In some cases, it may even be desirable for the government to actively deploy its stabilising capacity. The government can do so by committing itself in advance to bear certain risks, e.g., by issuing guarantees, providing insurance or granting loans or subsidies.[14]

The government may explicitly decide to take over certain risks because transactions that do not materialise at all or insufficiently on the market (due to a market failure) are considered in the general economic interest (given the externalities and political objectives). The fact that a transaction is considered desirable but does not take place on markets does however not automatically imply that the government will have play a role. There may also be government failures. In the worst-case scenario, well-intended government interventions will increase rather than cover the risks. This might be the result of behavioural changes in the private sector (moral risk). The massive government subsidies and guarantees on the US mortgage market are a good example. As a consequence, market players no longer had an interest in proper risk assesment and started to accept increasingly bad risks.[15] Systemic risks began to accumulate as a result.

Consequently, if the government decides to take over risks, it is vital to minimise any disruptions stemming from the intervention. Charging a premium for the intervention can be a way to ensure that market players internalise the risk. Also, vigilant risk management can help prevent private parties from simply passing on risk to the public sector. It is essential to ensure that private losses are socialized. That also holds true if the government has not committed itself in advance to bear the risks, but is nevertheless faced with the risks in the event of a crisis, just as it did when the problems in the banking sector erupted in 2008 and 2009. Finally, it should be remembered that extreme shocks can exceed even the government's shock-absorbing capacity. Sound risk management is therefore crucial in order to safeguard the limits to the government's strength.

In short, the government runs risks in different ways: either because risks automatically fall on the budget or because the government takes an explicit decision to take on certain risks. The following sections explore the different routes.

2.2 The economy

This section discusses risks that more or less automatically affect the budget: without a change in policy, public finances will react directly to certain developments. Government revenue fluctuates with economic growth, for example. In the event of slower economic growth, the

[14] A number of factors determine the most effective instrument, e.g. state compared to private-sector borrowing costs, administrative burdens, market risk and the capacity to monitor risks. See D. Lucas, 'Measuring and managing federal financial risk', NBER, 2010.

[15] See, for example, R. Rajan, 'Fault Lines: How Hidden Fractures Still Threaten the World Economy', 2010.

government receives less income from as corporate tax and personal income tax. Expenditure, on the other hand, will continue and the amounts involved may even increase for example due to higher unemployment expenditure. Public finances therefore have an automatic stabilising impact on the economy. This automatic stabilisation is relatively significant in the case of the Netherlands, partly because of the relatively large share of the government in the economy..

The sensitivity of the EMU-balance to the state of the economy has been estimated by the OECD. The budget elasticity for the Netherlands has been estimated at 0.53, which means that if the economy slows by 1%, the EMU-balance will worsen on average by 0.53 percentage points. The budget elasticities present an estimate of the average sensitivity over a longer period of time. In individual years, the budget may worsen by a greater or lesser extent. An analysis conducted for the 13th Budgetary Scope Study Group shows that in truly bad times, the balance figure has actually worsened relatively substantially.[16] This has also been the case in the current financial crisis. Possibly, the increasing importance of fluctuations in asset markets, housing prices, and oil prices amplifies the fiscal sensitivity. For example, lower share prices may result in lower income from taxes because of asset losses and higher premiums for pension plans.

Apart from economic growth, the budget also automatically responds to changes in the interest rate. Increasing interest rates gradually result in a higher financing burden for the State.

Quantification 1 – The effect of an interest rate increase on State interest payments

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The negative impact of an increase in the interest rate for the financing costs of the Netherlands government debt can be illustrated as follows. The government's current debt policy is based on an average maturity of 7 years. This implies that the government runs an annual interest-rate risk on approximately 1/7 of the debt. Based on the outstanding debt of €311 billion at year-end 2010, an interest-rate increase of 1 percentage point would result in an annual increase in interest charges of approximately €440 million (1/7 x 1% x €311 billion).[17] Note that this figure only concerns the direct effect of a higher interest rate and not the indirect impact via a possible lower growth and the crowding out of more productive expenditure. The Netherlands periodically presents a report on its risk management of the sovereign debt which gives a comprehensive description of how the government deals with interest rate risks.

In addition to the direct effect through the State's interest expenditure, higher interest rates also negatively impact economic growth, which leads to reduced tax revenueand increased public expenditure related to rising unemployment. According to the CPB's estimations, an increase of 1 percentage point in long-term interest rates leads to the deterioration of the EMU-balance by a total of 1.5 percentage points after four years.[18] An increase in the interest rate can also lead to a drop in income tax because of mortgage interest deductibility. The Upper House of Dutch Parliament (i.e. Senate) has inquired about the magnitude of this effect.[19]

[16] See W. Schilperoort and P. Wierts, 'The sensitivity of the Dutch budget to the economy' (*De conjunctuurgevoeligheid van de Nederlandse begroting*), Economische Statische Berichten, 2010.
[17] As interest charges fall under expenditure frameworks, the increase – rather than driving up the debt – has the effect of crowding out other expenditure.
[18] CPB, 'SAFFIER II Variants' (*Varianten SAFFIER II*), 'Background document to SAFFIER II' (*Achtergronddocument bij SAFFIER II*), CPB document 217, 18 January 2011.
[19] Motion put forward by the MP Remmelt de Boer et al., no. 32 500 C, 2010.

Quantification 2 – Impact of an interest rate increase on mortgage interest relief

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Mortgage interest deductibily lowered personal income tax revenue in 2010 by 12.1 billion euro. Figures published by the Dutch central bank (DNB) show that the average interest rate for housing mortgages was 4.76%. 18% of all mortgages are subject to a fixed-interest period of 1 to 5 years, 40% of mortgages have a fixed interest term of 5 to 10 years, and another 18% exceeds 10 years. Given these fixed-interest periods, an interest-rate increase will only gradually have a negative impact on the budget. Finally, it is also important to note that an interest-rate increase will result in lower housing prices. According to research carried out by the CPB, a 1% increase in interest rates will cause housing prices across the board to lag 5.9% behind the baseline.[20]

On the basis of these figures, it is expected that a 1 percentage point rise in interest rates will increase the mortgage interest deductibility by €200 million in the first year. If subsequently interest rates were to remain high, the drain on the budget would increase to €700 million by year 5.

2.3 Interventions

This section considers the risk that the government will have to intervene in the event of a negative shock. In other words, rather than that the public finances react automatically to financial and economic developments, the government explicitly decides to intervene. The government may do so because the costs of not intervening may be higher than the costs of the intervention. Saving major financial institutions is one example. The costs of an institution collapsing may do substantial damage to the economy and financial stability, and could therefore be more costly than the costs of recapitilization of that institution. In the event of such an intervention, the increase in debt can be accompanied by an increase in government-owned assets. However, the government will also run funding and business risks on assets that are usually not considered to be part of the public domain.

[20] CPB, 'What factors affect the development of housing prices in the Netherlands?' (*Welke factoren bepalen de ontwikkeling van de huizenprijs in Nederland*), CPB document no. 81, April 2005.

Box 2 Financial sector interventions in 2008-2009

The developments during the financial crisis offer insight into the scale of the implicit risk to public finances presented by the financial sector. The government carried out several interventions in order to safeguard financial stability in the Netherlands. The largest of these interventions consisted of a total investment of €27.9 billion for the ABN AMRO/Fortis purchase, recapitalisation, integration and settlement activities. In addition, the State also made €20 billion available for capital injections. This amount has been used for the following reinforcements: €10 billion in ING (of which €7 billion has since been paid back), €3 billion in Aegon (all of which has since been paid back) and €750 million for SNS Reaal (of which €185 million has since been paid back). These interventions generated a significant financial return for the government.

The shares taken by the government in these institutions were charged directly to the EMU-debt. The interventions can be classified as financial transactions and do not directly impact the EMU-balance (with the exception of part of the ABN AMRO transaction, which was charged to the EMU-balance in line with European rules).[21] A worse EMU-balance can nevertheless be expected as a result of the higher interest charges ensuing from the higher sovereign debt. Interest and dividend revenues have a positive impact on the EMU-balance. When the financial institutions pay the money back as agreed, the interventions ultimately have a positive impact on public finances.

The government intends to have substantially reduced its stake in the financial institutions within five years, market conditions permitting. The explicit aim is to to earn back the amounts invested, plus the financing costs incurred by the State. The risk in the event of renewed turmoil on the financial markets is that the gradual reduction of the government's stake in these institutions will be slowed down, or that ultimately a lower level of return will be achieved.

The expansion of the Deposit Guarantee Scheme (DGS, see Appendix 1) is another example of government intervention during the financial crisis. When the Islandic bank Landisbanki went bankrupt, the government compensated people of the Dutch branch by raising the DGS ceiling to €100,000. This decision had a one-off negative impact on public finances.

European stress tests were carried out in the banking sector in 2010 and 2011 to provide a quantitative assessment of the resilience of the banking system. These tests showed how the banking sector would cope in the event of a negative economic scenario. The most recent test revealed that eight of the 91 European banks tested required extra capital. The Dutch banks came out relatively well in the tests, they still had ample capital available.

[21] The EMU balance is a net concept. In financial transactions, increased debt is accompanied by an increase in possessions, such that the balance sheet position and therefore the EMU balance – but not the EMU debt – in principle remains unchanged. Eurostat takes the decisions regarding the precise application of this rule of thumb based on the specific nature of a transaction. Further information can be found in Schilperoort W., 'Economic and Monetary Union: deficit equals debt?' (*Economische en Monetaire Unie: tekort maakt schuld?*), Economische Statische Berichten, 2006.

2.4 Guarantees

If it is expected that the government will intervene in the event of a negative shock, the government could decide to issue an explicit guarantee. Once the guarantee has been given, the government is legally obliged to bear the costs if the guarantee is triggered. Proper incentives can be given to private parties by quantifying and pricing the risk of guaranties when possible. The premiums collected could then either be saved explicitly by building up a fund or implicitly by lowering the level of public debt. Explicitly assuming risk by issueing a guarantee has a possible disadvantage in the form of the moral hazard: private parties may take more risks once they know that government support is guaranteed in case the risks materialize.

The government issued various guarantees during the credit crisis in order to safeguard financial stability in the Netherlands. The government opened a €200 billion guarantee scheme. Financial institutions pay a premium to join the scheme. As of the Spring Interim Budget Memorandum 2011, the outstanding guarantees in the financial sector amounted to more than 5% of GDP, hence posing a riskto the budget.[22] The issuance of guarantees does not in itself result in a higher debt, however.[23] If a premium is asked there can even be a – small – positive effect. The government debt only increases if the guarantee is triggered. There is the potential for large amounts of money to be involved.

Quantification 3 – The risks involved with the ING Alt-A portfolio

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During the crisis, the State took over part of the risk involved in ING's American mortgage portfolio. In 2009, the government had the portfolio's risks analysed and an update was subsequently carried out in September 2010 when four external parties analysed a number of different scenarios. This update showed that the risks to the government had increased. According to one of the external parties, a loss of approximately $1.4 billion would be incurred in the most pessimistic stress scenario. The other scenarios resulted in a positive return for the government, thanks in part to additional premium payments made by ING (see Appendix 1 for an explanation of the Alt-A facility).

As with the financial sector, negative developments in Europe can also result in government intervention. In early 2010, for example, the Netherlands agreed to issuing loans to Greece.[24] The European Financial Stability Facility (EFSF) was subsequently established in mid-2010 with the aim of helping euro area countries in financial difficulties in order to safeguard the stability of the euro area.

In addition to guarantees, the government also runs risks through 'subsureties'. In the case of a subsurety agreement, the State is indirectly exposed to risks. The National Mortgage Guarantee Scheme (NHG, see Appendix 1) is one of the major subsureties. The direct NHG guarantee is issued by the privately run Owner-Occupied Housing Guarantee Fund (WEW). This fund will absorb damages in the first instance in the capital base (€643 million at year-end 2010). Once the

[22] This concerns the Bank Loans Guarantee Facility (*Garantiefaciliteit bancaire leningen*).

[23] Exceptions are possible. The European statistics office Eurostat, for example, decided that net loans from the EFSF must be included in the debt ratios of the countries issuing the loans (despite the fact that formally speaking only a guarantee to the EFSF is involved), because Eurostat believes that the structure of the EFSF makes it in fact a direct reflection of the eurozone countries themselves.

[24] Following on from the agreements made regarding Greece in early 2010, a description of more recent developments can be found in the Preparation Letter for the Plenary Debate of 17 August 2011 (*Brief Voorbereiding plenaire debat 17 augustus 2011*), reference BFB2011-1651M, dated 16 August 2011.

capital base is exhausted, the government provides an interest-free loan and the level of debt increases.

The table below provides an overview of the largest schemes that pose a potential risk for the government finances (guarantees, subsureties, insurance, loans) and the possible trigger, i.e. the shock that may cause a claim against the guarantee. Given the increased focus on the risks of such schemes, a detailed explanation of the schemes can be found in Appendix 1. Appendix 2 contains an overview of all guarantees that involve a risk for the government. The next chapter (Chapter 3) considers the possible correlations between the shocks identified. The simulations in this chapter also take on board the risks of the guarantees.

Table 1. Overview of risk-insurance schemes exceeding €10 billion[25]

Risk	Commitment undertaken (max. in billions)	Possible shock (trigger)
Financial market risks		
Inter-bank loans guarantee facility	33.2	Financial crisis
ING Alt-A portfolio[26]	16.4	Housing market, recession – US
European risks		
European Financial Stability Facility (EFSF)[27]	55.9*	European debt crisis
Worldwide risks		
Guarantees for International Financial Institutions	46.4	Global or local economic crisis
Export credit insurance	13.4	
Other/Dutch risks through the provision of subsureties[28]		
National Mortgage Guarantee Scheme (NHG)	126.4	Housing market, recession – NL
Social Housing Guarantee Fund (WSW)	85.3	Dutch housing market

* The EFSF involves a surplus guarantee to ensure that its lending capacity can be effectively implemented. The total guarantee on the principal and the interest on the principal amount to approximately €34 billion. The surplus guarantee on the principal and the interest on the principal amount to approximately €21 billion. The surplus guarantee is in fact a secondary guarantee to ensure the EFSF's AAA rating.

[25] This concerns the *implemented risk 2011* (see the Budget Memorandum 2012 (*Miljoenennota 2012*), Appendix 8 of the State Guarantee Overview 2012 (*Garantieoverzicht van het Rijk 2012*)) which can be triggered by financial and economic shocks. The Alt-A portfolio is an exception.

[26] See the Central Government Annual Financial Report 2010 (*Financieel Jaarverslag van het Rijk 2010*), Appendix 5 (*Bijlage 5*) Financial Interventions Monitor, p. 65.

[27] The EFSF is a temporary emergency mechanism which will be systematically replaced by the ESM from mid-2013. More information can be found under 'Guarantee Commitment' (*Garantieverplichting*) under Article 4, first 'Supplement 2011' (*suppletore 2011*) of budget IXB.

[28] The provision of subsurety indirectly exposes the State to risks because the commitments in that case are not made by the State but by a foundation. The State will only be held accountable if the foundation fails to meet its commitments.

3. Simulations

The previous chapter discussed the various channels and the main risks through which the public finances can be affected. This chapter provides a quantitative illustration of the possible consequences. After the introduction in Section 3.1, Section 3.2 presents a number of fictional simulations to illustrate what would happen if several shocks occurred simultaneously. The results are discussed in Section 3.3.

3.1 Introduction

Analysing simulated scenarios and variants has its limits. For example, it should be stressed that the simulations presented in this chapter are not forecasts. In practice, a shock or a simulation will never occur precisely as modelled and even if this were to be the case, the outcomes would still differ from the outcomes of the analysis.

The simulations show the impact of shocks without any reaction as regards additional policy. In practice, however, it is reasonable to assume that the government will react in the event of major shocks. According to the Coalition Agreement, the government is obliged to take measures if the EMU-balance deviates downwards by more than 1 percentage point from the envisaged balance baseline. The fiscal rules also impose corrective measures if the limits on goverment expenditures are exceeded. The no-policy assumption in the simulations is nevertheless useful in offering insight into the effects of shocks on public finances. The simulations cover the period of the Coalition Agreement from 2011 to 2015, in line with the CPB baseline forecast for the medium term.[29]

Bearing these comments in mind, the simulations provide the following added value compared to the current analyses as described in Chapter 1:

- The stress test offers insight into the development of public finances in the event of major shocks. Current analyses (performed by the CPB, for example) already provide a lot of information about the impact of more limited deviations from the baseline.[30]
- The analysis considers not only the direct impact of shocks on the economy and public finances, but also the indirect impact resulting from interventions in the financial sector and government guarantees.
- The correlations between individual risks are taken into account as much as possible. In practice, shocks seldom occur in isolation. If things go badly, they *really* go badly. In the current crisis, for example, a shock on the US housing market led to a financial crisis that in turn developed into a European debt crisis.

The crisis has demonstrated that it is difficult for economic models to cope with extreme circumstances (‘tail events’). In crisis situations, correlations between events may emerge that were not foreseen in advance. The failure of the risk models in the banking sector during this crisis illustrates that a model-based approach using a small set of historic data has its limits. The simulations are therefore based on reasonable, albeit uncertain assumptions regarding the relationship between the most important risks. By way of illustration, Figure 2 presents a

[29] It is not really worth considering a longer period precisely because of the assumption that there will be no policy reaction. The availability of financial sector information also prevents the selection of a longer period.
[30] See, for example, CPB, ‘SAFFIER II Variants' (*Varianten SAFFIER II*), 'Background document to SAFFIER II' (*Achtergronddocument bij SAFFIER II*), CPB document 217, 2010.

schematic overview of the causal links between a number of different negative shocks that are discussed in this report.

Figure 2 Indication of causal links between risks from left to right

Consequence / Shock	Dutch housing market	Stock market crash	Higher oil prices	Financial crisis	European debt crisis	Global economic crisis
Dutch housing market						
Stock market crash						
Higher oil prices						
Financial crisis						
European debt crisis						
Global economic crisis						

Major effect Minor effect Undetermined/Indirect effect

In general terms, the figure shows that further problems at financial institutions can affect the budget through various channels.[31] The Netherlands has a relatively large financial sector, which means that the direct effect on public finances can be relatively large as well. A global crisis could also have a far-reaching and relatively profound impact. It should be noted that it is impossible to precisely foresee any relationships between individual shocks. It does seem reasonable however to assume that a multitude of shocks would occur in the event of a financial, European or global crisis. The simulations described in the next section are therefore based on multiple shocks and reasonable assumptions about how they relate to each other.

3.2 Financial and economic shocks

This section offers insight into the possible impact of fictional shocks on public finances by presenting the results of a number of simulations. The three scenarios simulated are a financial crisis, a European debt crisis and a global economic crisis. The simulations are therefore to some extent inspired by recent developments, one major advantage being that recent data from the crisis can be included in the simulations. At the same time, it is important to remember that extrapolating one's thoughts from existing situations is in itself a limitation because new shocks may be of an entirely different and as yet unpredictable nature.[32] Nevertheless, the basis for the simulations can be deemed a logical approach for the Netherlands, which has an extremely open economy with a relatively large financial sector and is part of an integrated economic and monetary union.

[31] Research has demonstrated the close interrelation of various shocks and financial, economic and debt crises. See, for example, Reinhart and Rogoff, 'This Time is Different', 2010.

[32] The purpose of the stress test is not to explore the future, but rather to offer insight into the capacity of public finances to withstand shocks based on a number of fictional shock scenarios.

The simulations assumed major shocks, the likes of which were not even seen in the recent crisis period, as can be seen in the figures below.

Figure 3.1 Relevant global trade (changes compared to previous year)

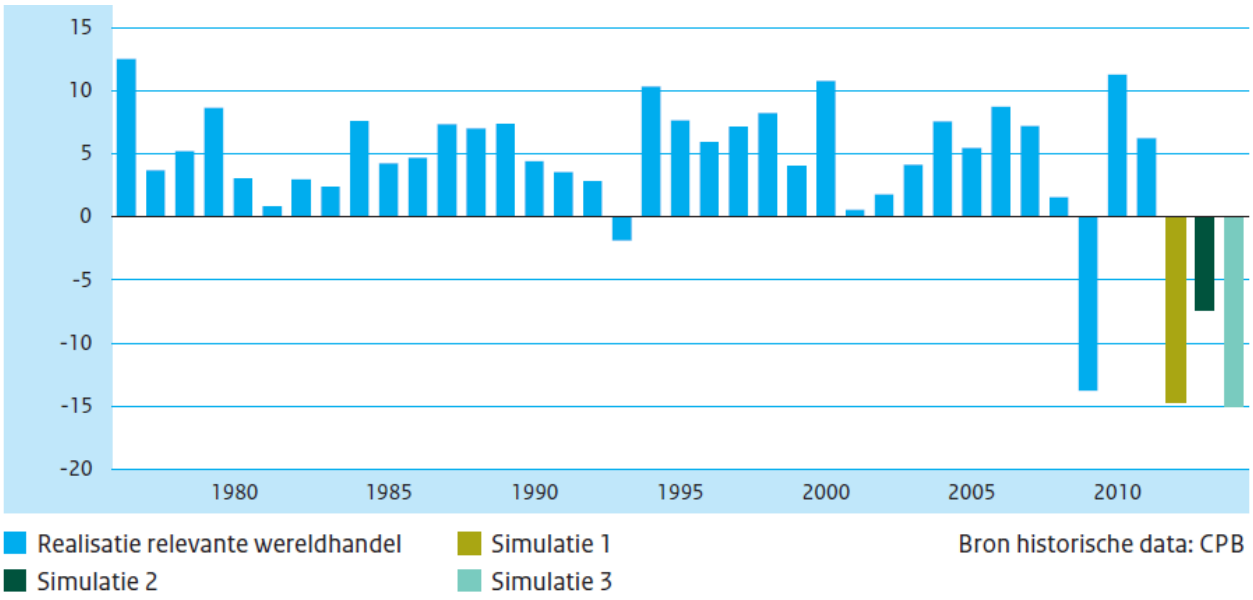
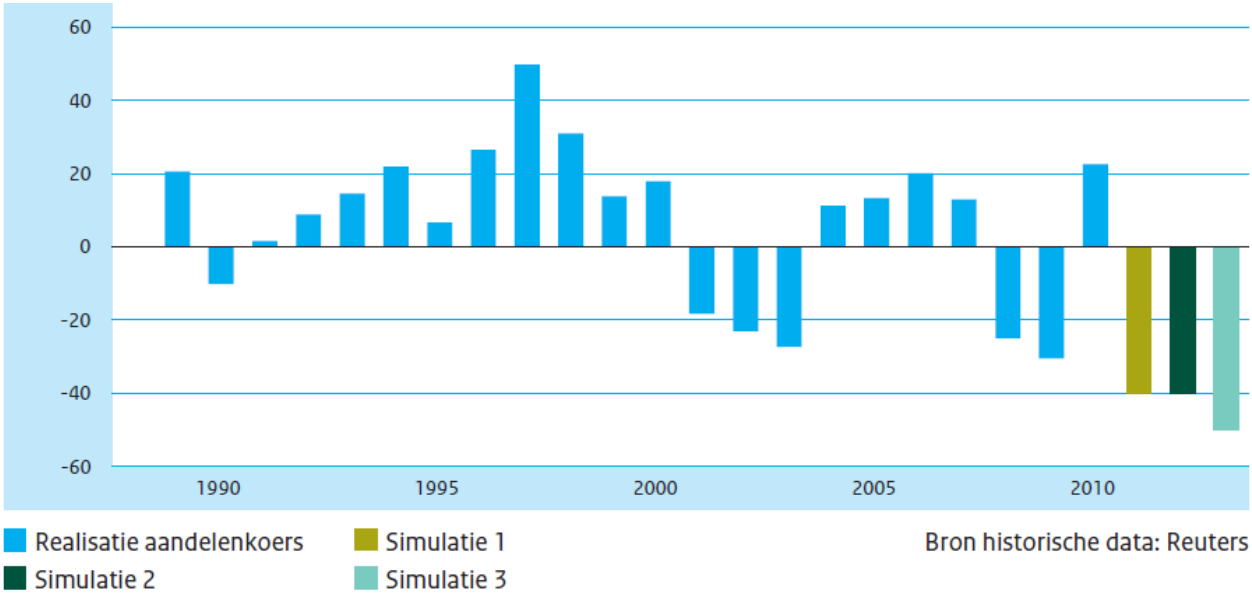


Figure 3.2 Share prices (changes compared to previous year)



The simulations clearly show the impact of various major shocks in comparison to the CPB baseline. The values for debt ratio in the tables are therefore the increase in the debt ratio, for example. In order to obtain the debt *level*, the change shown must be added to the debt level of the baseline; Section 3.3 goes into more detail in this regard. Following the structure used in Chapter 2, an explanation is given per simulation of the effect of a shock via:

1. The economy;
2. The possibility of interventions, especially in the financial sector;
3. Possible call on government guarantees.

1. At the request of the Ministry of Finance, the CPB simulated the impact of the fictional shock scenarios supplied by the Ministry on public finances and other economic variables.

2. The simulations were created using a macro-economic model that does not include the financial sector. DNB analysed the possible effects on the financial sector in the simulations, based on the experience gained during the financial crisis and the insights acquired through the banking sector stress tests (e.g. EBA EU-wide tests and IMF FSAP stress test).[33] The analysis considered the possible consequences for public finances if the government were to provide additional capital when the stability of the entire financial sector is put at risk. It should be remembered at this point that it is no way certain that the government would inject additional capital if the losses in the financial sector did occur in reality. The next chapter explains that a lot of work is being done within the current policy to minimise the chance of the government having to intervene.

3. Finally, the Ministry of Finance looked at the conceivable effects on government guarantees.

An attempt has been made to achieve internally consistent variants, with the express proviso that the precise interaction between the real economy, the financial sector and the government guarantees is highly uncertain.

Simulation 1: Financial crisis
By way of illustration, this variant assumes that the problems in the banking sector seen in 2008 and 2009 have returned:

- Global trade drops by 15%, followed by a slight recovery;
- Import prices fall by 5%, including energy (in euro) by 20%;
- Share prices drop by 40%, housing prices by 10%, the number of housing transactions by 25%;
- Nominal, long-term interest rates fall, but risk premiums (with respect to that interest rate) increase by 1 percentage point;
- Negative stimulus from consumer confidence.

Table 2: Consequences of Simulation 1: financial crisis (changes compared to the baseline)

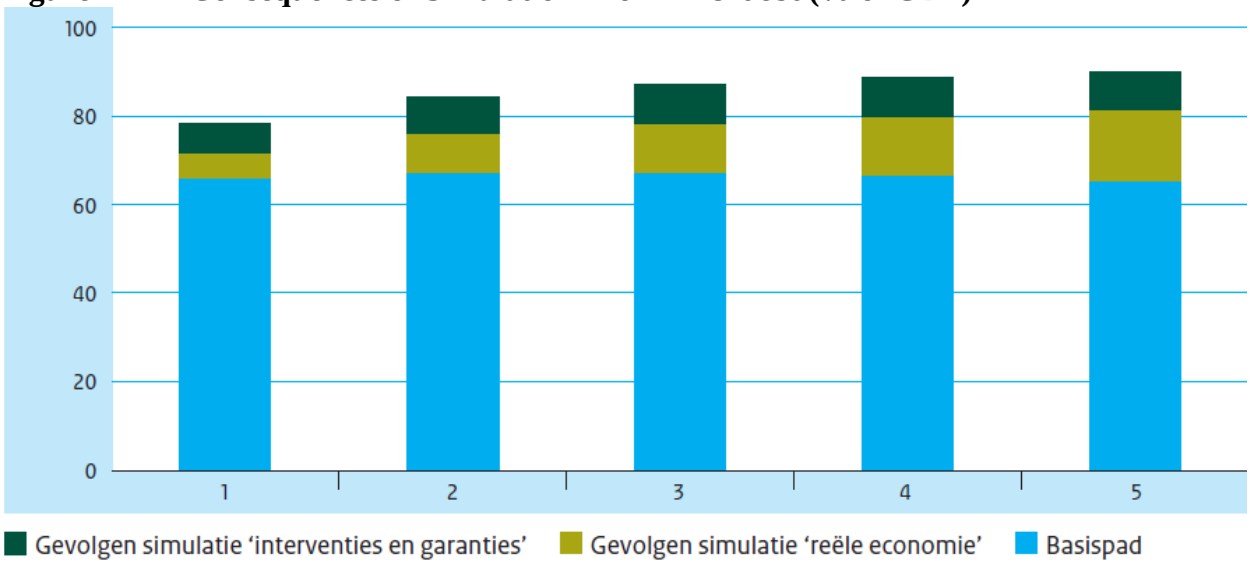
	Year 1	Year 2	Year 3	Year 4	Year 5
Relevant global volume of trade*	-14.7	-10.6	-10.6	-10.6	-10.6
Long-term interest rate**	-0.8	-1.2	-0.8	-0.4	-0.4
GDP*	-4.4	-4.4	-4.5	-5.0	-5.4
Private consumption*	-2.4	-3.5	-4.5	-5.8	-6.7
Export of goods, excluding energy*	-12.7	-10.0	-10.4	-10.6	-10.8
GDP deflator*	-1.1	-2.2	-1.7	-1.3	-1.4
Unemployment (% of work force)**	1.5	2.8	2.6	2.4	2.5
EMU balance (% of GDP)**	-1.8	-3.0	-3.2	-3.1	-3.4
EMU debt (% of GDP)**	12.1	17.2	19.9	22.0	24.5

* Cumulative deviation compared to the baseline level as a percentage.** Absolute cumulative deviation compared to the baseline level (deviation expressed in percentage points).[34]

[33] European Banking Authority, 'EU-Wide Stress Test Aggregate Report', 2011.
[34] A detailed explanation of how to read the table can be found in CPB, 'SAFFIER II Variants' (*Varianten SAFFIER II*), 'Background document to SAFFIER II' (*Achtergronddocument bij SAFFIER II*), CPB document 217, 18 January 2011.

1. The crisis will further reduce confidence in the economy and on financial markets. The reduced level of confidence, the deteriorated financial position of households and lower pensions are causing growth in household consumption to contract. Similar effects can be seen in other countries, resulting in a drop in the relevant global volume of trade. As a result, the demand for oil is decreasing, with lower oil prices as a result. In addition, the reduced level of confidence has a direct impact on the stock market. The higher risk premiums on the financial markets mean that businesses are having to pay higher interest rates.[35] The partial effect of the real channel results in a worsening of the debt ratio by some 16% of GDP in year 5.
2. Financial stability comes under pressure and the government intervenes to help systemically important institutions. Based on the experience gained during the credit crisis, an intervention in the amount of approximately €30 billion was assumed. The partial debt-increasing effect through the interventions channel amounts to more than 4% of GDP in year 5.
3. Given that the problems in the financial sector in various countries will rebound on public finances and exert pressure on growth, the public finance situation in various countries will worsen. This simulation assumes that the capacity of the EFSF will be fully used up, that the maturity will be extended and that the interest on the EFSF loans will be reduced to the cost of funding the EFSF. This further increases the debt for the Netherlands by a nominal €25 billion from year 3 onwards (more than 4% of GDP).[36] The partial debt-increasing effect through the guarantees amounts to almost 4% of GDP in year 5.

Figure 4 Consequences of Simulation 1 for EMU-debt (% of GDP)



Impact of interventions and guarantees Impact real economy Baseline

Simulation 2: European debt crisis

This variant assumes that the problems in several eurozone countries will continue. Private parties find that they have to take write-downs on government bonds, while governments have to extend the term of loans and adjust interest rates.

- The volume of global trade falls sharply;

[35] The interest rates stated in Table 1 are risk-free. Professionals pay more – including a risk premium – in addition to these amounts.
[36] Loans from the EFSF increase the debt ratios of Member States (see Footnote 23).

- The value of the euro falls by 20%, but import prices increase negligibly due to the reduced volume of global trade;
- Share prices fall by 40%, housing prices by 20%, the number of housing transactions by 40%;
- Nominal long-term interest rates hardly change, although the risk spread is one percentage point higher;
- Negative stimulus from consumer confidence.

Table 3 Consequences of Simulation 2: European debt crisis (changes compared to the baseline)

	Year 1	Year 2	Year 3	Year 4	Year 5
Relevant global volume of trade*	-7.4	-8.7	-5.8	-5.7	-6.4
Long-term interest rate**	-0.1	-0.1	0.0	0.0	0.0
GDP*	-2.9	-4.2	-4.2	-4.7	-5.4
Private consumption*	-3.6	-5.0	-6.3	-8.1	-9.1
Export of goods, excluding energy*	-5.8	-7.7	-5.7	-5.9	-6.8
GDP deflator*	-0.3	-0.2	1.3	2.8	3.2
Unemployment (% of work force)**	0.9	2.3	2.3	2.1	2.2
EMU balance (% of GDP)**	-1.3	-2.3	-2.4	-2.4	-2.6
EMU debt (% of GDP)**	8.4	13.1	14.7	16.2	18.9

* Cumulative deviation compared to the baseline level as a percentage.
** Absolute cumulative deviation compared to the baseline level (deviation expressed in percentage points).

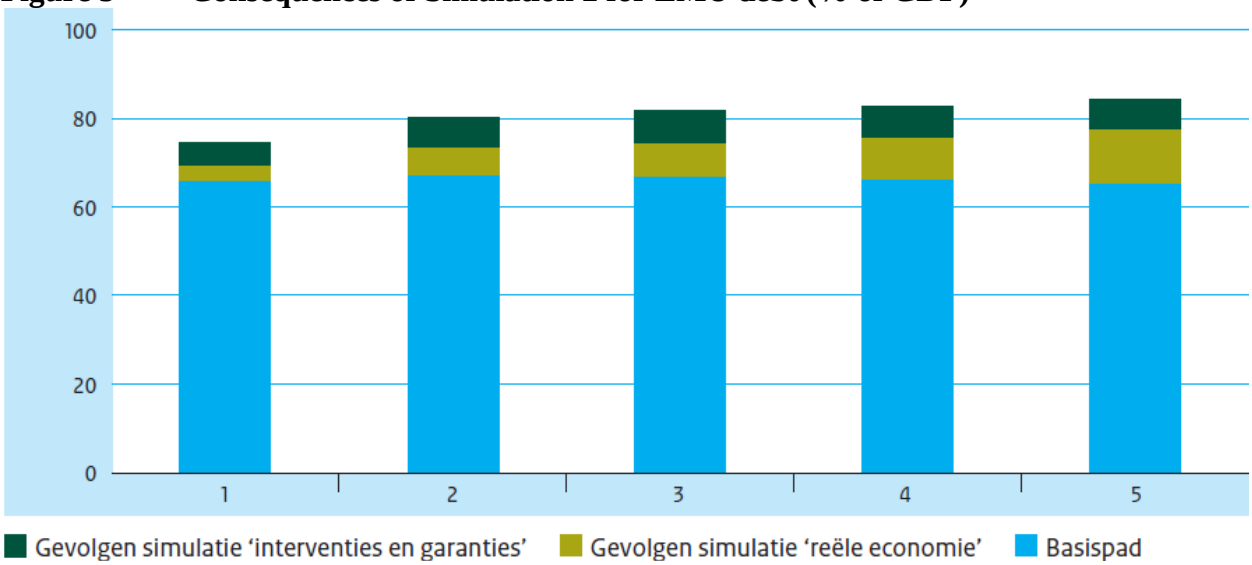
1. The ongoing European debt crisis will dent confidence. Reduced confidence can then cause growth in household consumption to contract and risk-averse behaviour on the financial markets to increase. This is once again an international scenario, so the same effect will also occur in other countries. The model therefore includes a drop in the relevant volume of global trade. Unemployment also increases once again. The partial debt-increasing effect of the real channel amounts to some 12% of GDP in year 5.

2. The debt problems can spread to the financial sector. A lot of financial institutions own government papers and are exposed to private parties in those countries. Furthermore, their rating is partly determined by the rating of the country in which their head office is located. The model assumes that the government will invest €20 billion in the Dutch financial sector. It also assumes that the guarantee scheme will be re-opened and will guarantee €10 billion in year 1. This amount is gradually reduced year-on-year. In this simulation, the ECB suffers losses on debt instruments that are passed on to DNB. DNB's profit transfer to the State evaporates completely as a result. The partial debt-increasing effect through the interventions amounts to 3% of GDP.

3. The drop in housing prices combined with increasing unemployment results in losses under the National Mortgage Guarantee Scheme (NHG). These losses can initially be absorbed in the capital base. In year 5, however, although the capital base is still positive, it drops below the threshold triggering an interest-free government loan of €100 million.

This simulation has consequences for the guarantees issued under the EFSF. It is assumed that all of the effective capacity of the EFSF will be used up, that the maturity of the facility will be extended and that the interest on the loans from the EFSF will be reduced to the cost of funding the EFSF. One of the effects is to increase the debt by €25 billion starting in year 3. The partial debt-increasing effect through the guarantee channels amounts to almost 4% of GDP in year 5.

Figure 5 Consequences of Simulation 2 for EMU debt (% of GDP)



Impact of interventions and guarantees | Impact of real economy | Baseline

Simulation 3: Global economic crisis

The deficits in both the balance of payments and the budget in the United States have been significant for many years. This variant assumes that uncertainty about US debts causes the value of the dollar to fall, resulting in worldwide uncertainty.

- The volume of global trade contracts by 15%;
- The value of the dollar falls by 30% compared to the euro. Import prices in euros fall – partly due to the volume economy – by 10 to 15%, including a drop in the cost of importing energy by more than 35%;
- Share prices drop 50%;
- Nominal long-term interest is down by some 2 percentage points, risk spread (with respect to that interest rate) is up by 1 percentage point;
- Negative stimulus from consumer confidence and loss of assets because of the fall in the price of the dollar (in this regard the simulation clearly deviates from an exchange rate scenario).

Table 4 Consequences of Simulation 3: Global economic crisis (changes compared to the baseline)

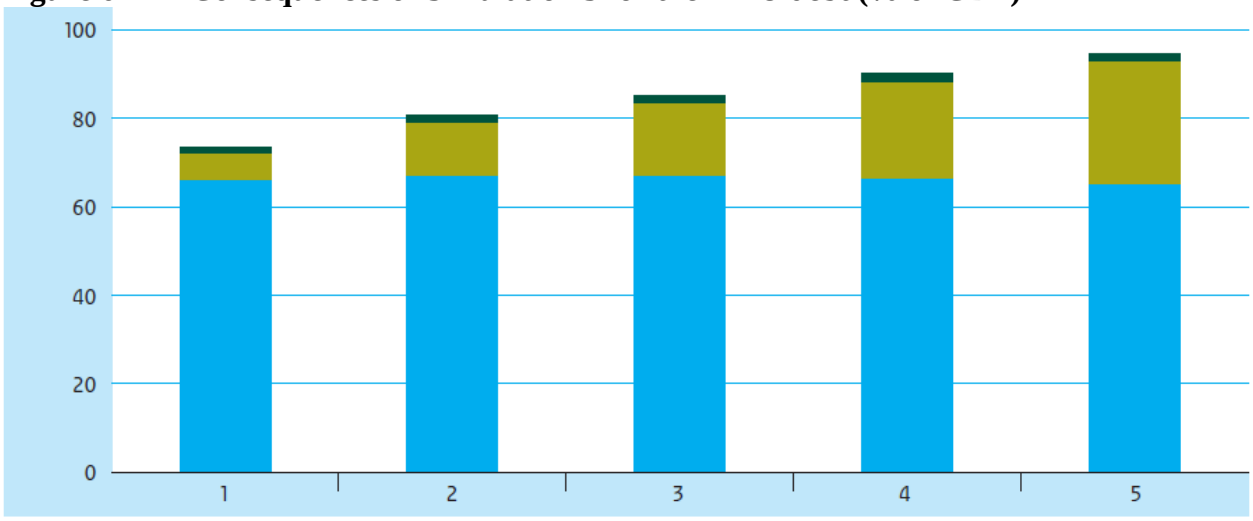
	Year 1	Year 2	Year 3	Year 4	Year 5
Relevant global volume of trade*	-15.0	-15.0	-15.0	-15.0	-15.0
Long-term interest rate**	-1.3	-1.4	-1.8	-2.1	-2.4
GDP*	-4.6	-6.1	-7.1	-7.8	-7.8
Private consumption*	-1.6	-1.6	-2.3	-3.8	-5.1

Export of goods, excluding energy*	-13.2	-13.8	-14.7	-15.2	-15.0
GDP deflator*	-1.9	-4.1	-4.3	-5.8	-8.7
Unemployment (% of work force)**	1.6	3.8	4.8	5.2	5.0
EMU balance (% of GDP)**	-1.7	-3.3	-4.3	-4.7	-4.4
EMU debt (% of GDP)**	7.3	13.4	18.2	23.6	29.3

* Cumulative deviation compared to the baseline level as a percentage.
** Absolute cumulative deviation compared to the baseline level (deviation expressed in percentage points).

1. A fall in the value of the dollar directly impacts the purchasing power of US households, which in turn negatively impacts the relevant global volume of trade. This international shock also causes the price of oil to drop (in dollars), resulting, in reduced revenue for the Dutch budget because of lower gas prices. Pension funds have to repair their coverage ratio because of the lower share prices and lower interest rates, which in turn results in lower pensions and consequently reduced consumption. The partial debt-raising effect through the real economic channel is more than 27% of GDP in year 5.
2. As expected, the banking sector has sufficient buffers in place to absorb these simulated circumstances without government support. This channel is not expected to increase the debt.
3. Dutch exporting companies can be affected in the event of a sharp drop in the relevant global volume of trade and an increased degree of economic uncertainty. The government insures a very small portion of these export transactions through the export credit insurance facility (EKV). Based on assumptions regarding the increased chance of damage and correlations between different countries, this variant forecasts an increase in the expected losses under the EKV facility of €50 million per year compared to normal circumstances. In addition, the problems in the US may have consequences for Dutch public finances through ING's Alt-A portfolio. In this scenario a loss is incurred because of a reduction in the cash flow from the portfolio, but in the initial years this loss does not yet affect the balance and the debt because the portfolio contains a buffer to absorb losses. Finally, it is assumed that part of the capacity of the EFSF is used up. The partial debt-increasing effect of the guarantees amounts to almost 2% of GDP in year 5.

Figure 6 Consequences of Simulation 3 for the EMU debt (% of GDP)

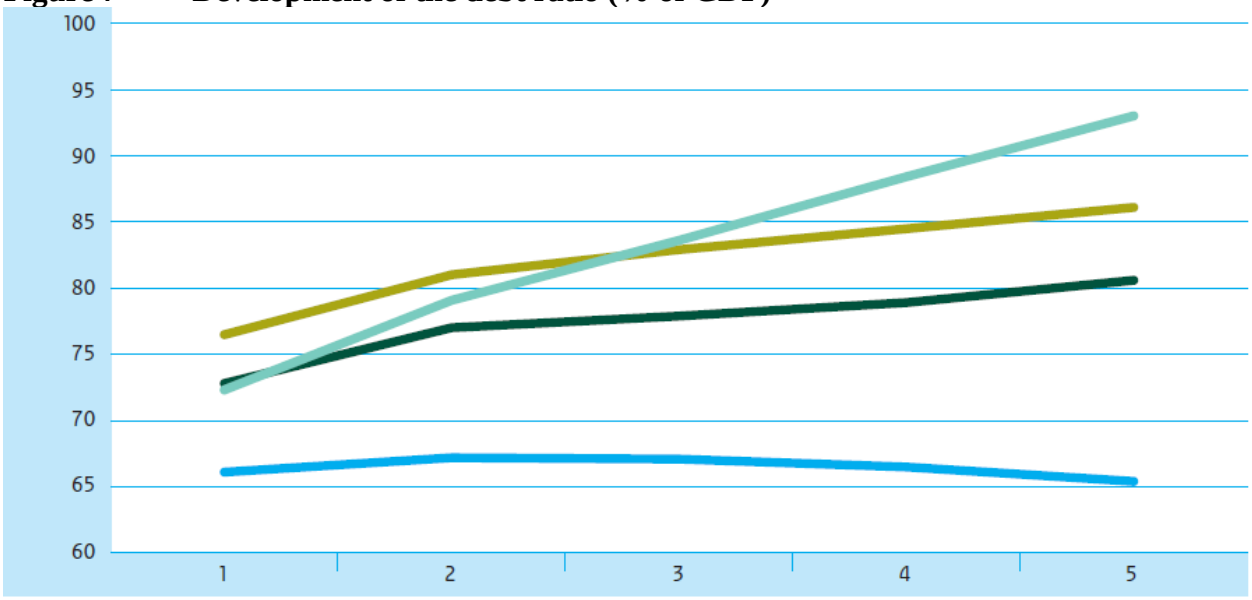


Impact of interventions and guarantees Impact of real economy Baseline

3.3 Discussion and colouring of results

The variants illustrate that a significant deterioration of public finances is possible. The graph below shows the development of the debt ratio in the various analyses. In year 5, the debt ratio is between 80% and almost 95% of GDP as a result of the fictional shocks. The worsening of the debt ratio in the simulations is therefore of a broadly similar scale (Simulation 2) or larger (Simulations 1 and 3) compared to the worsening of the debt ratio during the financial crisis.

Figure 7 Development of the debt ratio (% of GDP)



Baseline Simulation 1 Simulation 2 Simulation 3

New interventions in the financial sector are one of the reasons why the debt increases in Simulations 1 and 2. On the one hand, the Netherlands has a relatively large financial sector, but on the other hand the international stress tests confirm that the Dutch sector is relatively shock-resistant. Set against thedebt increase due to the financial interventions, there is also

increased ownership in the form of receivables or participating interests. This may drive the debt down in later years if these possessions can be sold on.

One important point to note regarding the simulations is that bad times often see correlations found that were difficult to forecast in advance. To put it simply: when things really go wrong, everything goes wrong. The models are calibrated for standard economic situations. As already stated, however, it remains a possibility that a larger-scale worsening of the balance position will occur in extreme situations for a variety of reasons. In the current crisis, for example, a drop in growth of almost 6% of GDP was accompanied by a worsening of the balance position by 6% of GDP. Furthermore, it is also possible for a shock to occur as assumed, but for other mechanisms to be involved in the worsening of the balance position than those that were included in the simulation. The significant deterioration of the budget balance in the crisis was also related to the fact that there was a positive output gap in 2008. Adjustment mechanisms in the economy ensure that the tendency of the actual level of growth is towards the potential level. The result is a worsening of the budget balance if there is a positive output gap.

Given this possibility of the budget balance worsening because of mechanisms that cannot be foreseen and could not be included in the models, the report on risk management of sovereign debt (*Risicomanagement van de staatsschuld*) provides an important complementary analysis. That report focuses in more detail on the impact of an interest rate shock on the capacity to finance sovereign debt and will be published at approximately the same time as this stress test report.

A second important point to note is that a deterioration of public finances – as illustrated by the analyses – cannot be clearly translated into consequences for the capacity to finance and for sustainability. By way of illustration, Japan is currently not experiencing any difficulties in financing its government debt despite having a debt ratio that is 220% of GDP. It depends on many factors when precisely a country will no longer be able to meet its obligations, such as the way in which the debt is financed, the government's assets, the private debt and privately held assets, the potential for growth and the sentiment on the financial markets.[37]

It seems natural to try to limit the goverment debt in order to prevent problems from occurring. In the case of a higher debt level, interest charges may make it difficult to finance the debt and may discourage private investment.[38] If interest charges increase sharply, the result may be that public finances are no longer sustainable because of a negative spiral. The higher interest charges cause the debt to increase, which results in even higher interest charges, causing a further increase in debt, and so on. Research also shows that growth is lower in countries with a higher sovereign debt, which would make it even more difficult to reduce/stabilise the debt ratio.[39] An analysis performed by the IMF shows that a 10 percentage point increase in the debt level

[37] In the Netherlands, total assets exceed total debts by around 40% of GDP – see the Budget Memorandum 2011 (*Miljoenennota 2011*). Further information about the financing limits of national debt can be found in Ghosh et al., 'Fiscal Fatigue, fiscal space and debt sustainability in advanced economies', NBER working paper 1678 2, 2011.

[38] Research shows that – historically – an increase in debt level by 10 percentage points resulted in interest rates that were around 0.5 percentage points higher. See, for example, the IMF's 'Global Financial Stability Report' (2009), the European Commission's 'Public Finances in EMU' (2004) and the DNB's 'Quarterly Report' (*Kwartaalbericht*) (June 2010).

[39] In order to maintain a stable debt ratio, a primary surplus is needed as a percentage of GDP that is approximately equal to the product of the debt ratio of the previous year and the difference between the nominal interest rate and the growth rate of nominal GDP: primary surplus (as a % of GDP) = debt (as a % of GDP) x (interest rate – growth rate). For more information, see CPB, 'Macro-Economic Outlook 2011' (*Macro-economische Verkenningen 2011*), p. 90.

reduces growth by 0.15 percentage points.[40] Reinhart & Rogoff find that growth is significantly lower in countries with a sovereign debt exceeding 90% of GDP.[41]

The Shock Proof reveals that the fiscal and economic effects of a new crisis could be substantial. Economic growth takes a major hit and sovereign debt increases significantly in the three simulations. The 60% limit laid down in the EU-Treaty is lost out of sight and the limit of 90% of GDP is approaching or has already been exceeded. At the same time, the level of Dutch debt does remain below the level in many other rich countries as a result of the better initial position. It should be remembered in this regard that most of the shocks simulated in the models affect not only the Netherlands, but other countries as well. The current European debt crisis has put pressure on southern Europe and Ireland, for example, while the Netherlands is considered a safe haven. Given the healthy condition of public finances and the confidence of the financial markets, it is reasonable to assume that the Netherlands would not be the first country to experience difficulties in the event of an international shock. It is even possible that the status of the Netherlands as a a safe haven would be strengthened.

At the same time, the fiscal position has worsened significantly in the Netherlands as well because of the crisis. A further increase in the debt ratio reduces the capacity to react to future shocks, while the current turmoil in the global economy makes it even more important to have sufficient budgetary scope. As stated in the Budget Memorandum 2011, there are therefore strong arguments in favour of getting public finances in order and restoring sufficient budgetary scope. These arguments are further strenghthened by the possibility that the debt ratio will increase substantially as shown in the simulations.

Finally, it is significant that the debt ratio in the simulations continues to increase during the period considered. This shows the importance of sound risk management if large negative shocks were to occur. In practice, it is very likely that a policy reaction would follow in the event of a negative shock, just as the government responded to the current crisis with policy measures. The following chapter looks in more detail at the policy of getting public finances in order and managing the risks.

[40] IMF, 'Fiscal monitor: navigating the challenges ahead', 2010.
[41] Reinhart & Rogoff, 'Growth in a time of debt', American Economic Review, 2010.

4. Risk management

The analysis presented in this report illustrates that negative financial and economic shocks can have a major impact on public finances. Adequate risk management by the government is therefore required. In response to the crisis, the government implemented a raft of important measures to improve risk management and the resilience of the financial system.

Reorganisation of the financial sector

A lot of work is in progress to reduce the likelihood of interventions in the financial sector in the future. This work is largely being done at the international level because of the international nature of the financial sector. The new international regulatory framework for banks (Basel III) prescribes substantially increased capital buffers which impose more stringent requirements on systemically important banks. The European Banking Authority (EBA) estimates that the 246 most important banks in Europe need about an additional €260 billion of capital in order to comply with the new requirements.[42] However, a deadline of 1 January 2019 has been set for full implementation so that the banks can make the transition gradually.

In addition to higher buffers, work is also underway on a better system of supervision. The regulator will be given more powers to intervene earlier and more robustly in resolving problems in advance. In the Netherlands, crisis intervention legislation and a crisis intervention ladder are being prepared.[43] A framework to prevent the damage caused by disorderly bankruptcies in the financial sector is also being developed at the European level. As part of that framework, financial institutions and governments will draw up recovery and resolution plans which set out how institutions can be restructured in a crisis situation without government assistance.

Work is also in progress on a more stringent system for supervising remuneration structures, better tools for prudential supervision and crisis management, as well as the establishment of the European Systemic Risk Board to monitor and address systemic risks. The Dutch Banking Code creates better incentives and can therefore help to compel financial institutions to adopt a more long-term vision. Finally, the excesses in mortgage lending have recently been addressed by means of the tighter Mortgage Lending Code of Conduct (GHF). The introduction of a banking levy will also help to create greater financial stability by making it a less appealing option to use high-risk leverage for financing purposes.

Managing European risks

The European debt crisis demonstrates the need for stricter European rules and better compliance to foster financial stability in the euro area. The Dutch government has fought hard to achieve such rules and the Member States are currently in the final phase of negotiations with the European Parliament regarding a raft of measures that will greatly improve policy agreements in Europe. These measures include the following:

1. Strengthening the preventive effect of the Stability and Growth Pact (SGP): Member States facing major risks to the sustainability of public finances and/or a debt level exceeding 60% of GDP will have to make progress more quickly towards their Medium-Term Objective for the EMU-balance. There will also be an increased focus on growth in expenditure.

[42] See http://www.eba.europa.eu/cebs.
[43] See Parliamentary Documents II, 2009/2010, 32 013, no. 6.

2. Strengthening the corrective effect of the SGP: In addition to the EMU-deficit, more attention will be paid in future to the level of debt. This will make it possible to tackle countries that have a relatively small deficit, but a very high level of debt and are not doing enough to reduce their debt.

3. New sanctions in the SGP: The Commission will be able to propose fines at an earlier stage. Member States will be given fewer opportunities to block decisions. The aim is to improve compliance with the SGP by making the decision-making about sanctions as semi-automatic as possible.

4. Introduction of an imbalances procedure: Damaging macro-economic imbalances such as a persistent current account deficit or inflated housing prices must be avoided.

5. Penalties in the imbalances procedure: Penalties may be imposed on Member States who undermine the stability of the euro area if they repeatedly fail to take sufficient action.

6. A directive containing minimum requirements for national budget frameworks: Member States will have to comply with a directive containing minimum requirements for national budget frameworks.

Tightening guarantee policy

The Dutch government has tightened its policy on guarantees. Usefulness and need will have to be strictly reviewed in future before a guarantee can be provided. In principle, when it takes over risks, the government will request a premium to cover costs. The government will also keep a closer eye on guarantees already issued so that the scaling down of the government's responsibility can begin quickly if the guarantee arrangement ceases to be sufficiently useful and necessary. Finally, the risk management system was also strengthened recently for a number of individual arrangements such as the National Mortgage Guarantee Scheme.[44]

Management of the risks of the sovereign debt

The Ministry of Finance conducts an analysis of the management of the risks of the sovereign debt during each government's term in office. The analysis consists of an evaluation of the policy to finance the sovereign debt as efficiently and effectively as possible within the limitations of an acceptable risk to the budget.

Restoration of sufficient budgetary scope

The creation of sufficient budgetary scope is a crucial step in addressing risks. The Netherlands was able to handle the consequences of the crisis reasonably well thanks to its good financial position when the crisis began. In 2008 the Netherlands had a budget surplus and EMU debt was falling towards 40% of GDP. This created the budgetary scope for the necessary interventions in order to safeguard the Netherlands' financial stability and implement a stimulus package in line with international agreements.

The sustained turmoil on the financial markets and the uncertain prospects for growth underline the importance of restoring sufficient budgetary scope. Confidence in the Dutch public finances therefore remains intact and new blows can be absorbed. The decision to take an €18 billion policy package during the current government's term in office in order to repair the damage to

[44] The powers of the State to intervene if necessary in the private Owner-Occupied Housing Guarantee Fund (WEW) through the Supervisory Board, the level of the premiums and the management of the fund were increased with effect from 1 January 2011, thereby providing the State better tools to lower risks and increase buffers if necessary.

public finances is therefore crucial. It is also an ambitious way of implementing the recommendations in the SGP by bringing down the deficit more quickly than prescribed by Brussels.

Embedding long-term sustainability

A robust initial budgetary position is also important as regards handling uncertainties, shocks and trends in the longer term, such as the ageing population. According to the Budgetary Scope Study Group, measures costing a total of €29 billion will be needed to create healthy and sustainable public finances. The Coalition Agreement contains measures to reduce the sustainability gap by €24 billion, which means that the government intends to take a very major step in embedding the long-term sustainability of public finances. Raising the retirement age for State old-age pension will be a key measure and will avoid all of the risks being placed on one side with future generations. The measures in the tax system and in education are intended to strengthen the capacity of the Dutch economy for growth, which will also promote sustainability (see Budget Memorandum 2012).

Final comments

Through this raft of measures the government has launched a comprehensive agenda to manage the risks and strengthen the shock resistance of the public finance system. This report has set out the fiscal and economic effects of a number of conceivable shocks. However, it is impossible to predict the exact nature of new shocks in advance, or what policy reaction may be needed. It is precisely this unpredictability that underlines the importance of a good initial budgetary and economic position and sound risk management to be able to absorb future shocks, whatever they may be.

Appendix 1: Explanatory notes regarding the main risk-insurance schemes

B1.1 Introduction

Chapter 2 described the various channels where the state of public finances can worsen, including the explicit conditional obligations. This appendix provides a more detailed explanation of the largest risk-insurance schemes.

Table B1 Overview of risk-insurance schemes exceeding €10 billion[45]

Risk	Commitment undertaken (max. in billions)	Possible shock (trigger)
Financial market risks		
Inter-bank loans guarantee facility	33.2	Financial crisis
ING Alt-A portfolio	16.4	Housing market, recession – US
European risks		
European Financial Stability Facility (EFSF)[46]	55.9*	European debt crisis
Worldwide risks		
Guarantees for International Financial Institutions	46.4	Global or local economic crisis
Export credit insurance	13.4	
Other/Dutch risks through the provision of subsureties[47]		
National Mortgage Guarantee Scheme (NHG)	126.4	Housing market, recession – NL
Social Housing Guarantee Fund (WSW)	85.3	Dutch housing market

* The EFSF involves a surplus guarantee to ensure that its lending capacity can be effectively implemented. The total guarantee on the principal and the interest on the principal amount to approximately €34 billion. The surplus guarantee on the principal and the interest on the principal amount to approximately €21 billion euro. The surplus guarantee is in fact a secondary guarantee in order to ensure a AAA rating for the EFSF.

[45] This concerns the *implemented risk for 2011* (see the Budget Memorandum 2012 (*Miljoenennota 2012*), Appendix 8 of the State Guarantee Overview 2012 (*Garantieoverzicht van het Rijk 2012*)) which can be triggered by financial and economic shocks.

[46] The EFSF is a temporary emergency mechanism which will be systematically replaced by the ESM from mid-2013. More information can be found under 'Guarantee Commitment' (*Garantieverplichting*) under Article 4, first 'Supplement 2011' (*suppletore 2011*) of budget IXB.

[47] The provision of subsurety indirectly exposes the State to risks because the guarantee commitments in that case are not issued by the State but by a designated intermediary. The State will only be held accountable if the intermediary fails to comply with his or her obligations.

Guarantees can be triggered by economic and financial shocks and the table shows that large sums of money may be involved. The structure of the following sections is based on the above table: Section B1.2 deals with the situation in which – further – problems occur in the financial sector, giving the government the challenge of safeguarding financial stability; Section B1.3 looks at the risks that ensue from negative European developments and Section B1.4 addresses negative global shocks. The various sections explain the risks involved and the accompanying fiscal risks.

B1.2 Financial market risks

B1.2.1 Inter-bank loans guarantee

The €200 billion guarantee scheme for banks was available from October 2008 to 1 January 2011. The aim of the scheme was to insure the continuity of financing of financial institutions in order to safeguard lending to businesses and private citizens.

The guarantee was given to banks who wanted to finance themselves by means of a loan. All banks with a Dutch banking licence were eligible for a guarantee. DNB was consulted about the liquidity and solvency of the bank making the application before the guarantee was issued. Banks issued with a guarantee have to pay a guarantee premium. The State acts unconditionally and irrevocably as guarantor for the guarantees issued. This means that the State is required to pay out immediately if an investor withdraws the guarantee, which would then result in an increase in EMU debt.

At the high point of the guarantee scheme at the end of November 2009 the total amount of outstanding guarantees was €50.3 billion. The last guaranteed loan expires in December 2014. The risk run by the State on these guaranteed loans still exceeds €33.2 billion (as of 2011 according to the Budget Memorandum 2012), decreasing down to zero in December 2014. The guarantee office has been closed since 1 January 2011. As part of the exit strategy, banks have also had the opportunity to pay back guaranteed loans *early* since 1 January 2011. Allowing banks to buy back guaranteed loans reduces the number of outstanding guarantees and therefore also the level of risk. On the other hand, however, the income into the budget from guarantee premiums is also reduced, although that reduction will be partly set off by charging a closing-out fee.

In the event of renewed turmoil on the financial markets, it is possible that the government will have to consider reopening the guarantee scheme in order to safeguard financial stability. If banks then use the guarantee scheme, the level of risk to public finances will increase once again.

Box Deposit Guarantee Scheme (DGS)

The guarantee on the credit balance of savings and payment accounts is not a direct government guarantee, but rather a guarantee financed by the banks. Developments during the crisis showed, however, that the DGS is not entirely without risks to public finances.

On 7 October 2008, the guarantee for deposit accounts was extended to €100,000, without any own-risk amount.[48] This amount now applies throughout all of Europe. The aim of extending the DGS was to help to maintain and rebuild confidence in the financial sector and how it operates. The participating banks will also pay the costs of expanding the coverage. The State took the hit on a once-only basis on 7 October 2008 to extend the guaranteed amount to €100,000 when Icesave collapsed.

The costs of any claims against the DGS system are divided among the participating banks. The direct financial effect for the State when a party claims against the DGS system is therefore limited to the State's shareholding in ABN AMRO. There are also the implementation costs DNB incurs for this scheme insofar as they are not spread across the sector, which costs are charged indirectly to the State through DNB's profit transfer. It is through the transfer that they impact both the EMU balance and EMU debt.

Furthermore, the State has taken on part of the pre-financing for the DGS payouts because of the inability of DSB Bank to pay. As the executor of the DGS, DNB gave these payments as an advance initially. In 2010, DNB requested the advanced amount back from the banks. However, the Financial Supervision Act caps the amount that may be requested from a bank in any given calendar year, which amount is calculated according to the solvency and liquidity position of the bank. Some of the banks exceeded this maximum amount and this excess had to be pre-financed. However, this prefinancing brought DNB into conflict with the limit imposed by the ECB for monetary financing. The Minister of Finance therefore prefinanced the amount to be claimed back from these banks to DNB, which will pay the interest charges. Most of the pre-financing had been paid back by the beginning of 2011.

The government has decided to reform the financing of the DGS system by changing from a system financed in arrears to a system financed in advance. Practically speaking, this means that banks will have to pay an amount periodically into a deposit guarantee fund.[49] These contributions will be based on the amount of covered deposit accounts held by the bank and will depend on risk weighting. If a payment has to be made from the DGS, money will first be taken from the fund. If the amount of money in the fund is insufficient, the shortfall will be divided across the banks. This system will come into effect in July 2012.

[48] Until then, a total of €40,000 was guaranteed in the Netherlands with an own risk of 10% on credit balances between €20,000 and €40,000.

[49] Submitted for consultation on 1 August 2011, the draft amendment of the Special Prudential Measures, Investor Compensation and Deposit Guarantees (Financial Supervision Act) Decree (*Besluit bijzondere prudentiële maatregelen, beleggerscompensatie en depositogarantie Wft*) states that banks will build up a fund over a 10-year period starting on 1 July 2012, involving an amount equal to 1% of the total deposit amount guaranteed by the DGS. This currently equates to an envisaged fund level of €4 billion.

B1.2.2 ING Alt-A portfolio

The setting up of the Illiquid Assets Back-up Facility (IABF) prevented a writedown of ING's securitised mortgage portfolio (i.e. Alt-A portfolio) and improved ING's main capital ratios. By virture of this transaction, the Dutch State has an explicit obligation to pay ING. This obligation is set against a claim on ING for 80% of all cash flows from the Alt-A portfolio. The (ultimate) scale of the cash flows from the portfolio is uncertain and depends to a large extent on the development of housing prices in the US.

The Alt-A portfolio was analysed as part of the establishment of the transaction. The analysis was based on the understanding and forecasts at that time regarding the US housing market. In 2010, a new analysis was performed, taking into account new developments and more recent forecasts. The 2010 analysis[50] sheds light on the final result that the State could obtain from the IABF. The most pessimistic stress scenario predicts a loss with a net cash value of $1.4 billion (in most other scenarios the State makes a profit). Of course, it is possible that the actual result will be worse (or better) than the most extreme scenarios from the analysis.

The State and ING owe each other various payments because of the back-up facility. The State pays ING a management fee[51] to manage the portfolio. The State also owes ING a funding fee[52] for funding the portfolio. These payments negatively impact both the EMU balance and EMU debt. In return, ING pays a guarantee fee[53] to the State for taking over the risk. As Eurostat classifies the guarantee fee as a financial transaction, it does not impact the EMU-balance. The guarantee fee does positively impact the EMU-debt, however.[54]

B1.3 International risks

In 2010, the European Union took various measures to foster the stability of the euro. Specifically, the measures in question were a support package for Greece, the European Financial Stability Facility (EFSF) for the euro area and the European Financial Stability Mechanism (EFSM) for the other EU Member States. In 2011, the European Stability Mechanism (ESM) was announced as the systematic successor to the EFSF starting in mid-2013. The following sections consider these European schemes. (These sections also cover the Greek support package and the EFSM. They are not included in the table as they do not exceed €10 billion.) Then there are also the other international risks, namely guarantees to International Financial Instituitions such as the IMF, and the export credit insurance.

B.1.3.1 Package of support for Greece

In May 2010, the eurozone countries announced a coordinated effort with the IMF to support Greece to an amount of €110 billion, with €80 billion charged to eurozone countries and €30 billion from the IMF. Each individual eurozone country's share in the total amount will be determined by the ECB capital key. After Slovakia, Ireland and Portugal dropped out, the Dutch share is 6.2%. The programme has therefore become slightly smaller; the value of the Dutch share is €4.7 billion. The support package takes the form of bilateral loans to Greece. In 2010, the Netherlands loaned approximately €1.2 billion to Greece. Lending raises EMU debt.

[50] Parliamentary Documents II, 2010/11, 31 371, no. 353.
[51] Equal to 0.25% per annum on the (declining) State share in the portfolio.
[52] Equal (per annum) to 3% + 0.5% on the fixed-interest remaining portion of the guaranteed value plus LIBOR + 0.5% on the variable-interest remaining portion of the guaranteed value.
[53] This fee is equal to 0.55% + 0.826% on the (declining) State portion of the portfolio.
[54] See Parliamentary Documents II, 2010-2011, 31 371, no. 353.

Negotiations are currently in progress regarding a second support package for Greece through the EFSF.[55]

B1.3.2 European Financial Stability Facility

The European Financial Stability Facility (EFSF) was established on 7 June 2010. The EFSF can grant loans to eurozone countries in financinal need and was set up to guarantee the stability of the eurozone. Eurozone Member States can go to the EFSF if they lose access to capital markets or have to pay excessively high interest rates on the capital market. In exchange for temporary liquidity assistance, Member States have to implement significant cost-saving and reform programmes.

In total, the eurozone countries have put up €440 billion in surety for the obligations entered into by the EFSF to fund these loans. Bonds issued by the EFSF to raise money for lending programmes are guaranteed by eurozone countries pro rata according to the ECB key. All countries in the eurozone give guarantees, except for the countries that are using a support programme (currently Greece, Ireland, Portugal and Estonia).

The Netherlands has issued €55.9 billion in guarantees for the EFSF. The overall guarantee consists of a combination of primary and back-up guarantees. The primary guarantees provide direct coverage of the net loans from the EFSF and the interest attached to those loans. Supplementary back-up guarantees are necessary to guarantee the EFSF's AAA rating. The Netherlands therefore has to provide more than €44 billion for the net loans and the accompanying back-up guarantees. In order to ensure the loan capacity of €440 billion at all times, the interest charges, which fluctuate along with interest rate changes, must also be guaranteed. According to interest rate estimations available when this report went to print, the guarantee for the EFSF interest charges exceeded €11 billion. The precise amount of this guarantee is subject to change if interest rates change. The total of more than €44 billion in primary and back-up guarantees always remains the same, however. All financial support from the EFSF is provided in cooperation with the IMF and lending programmes have similar policy conditions to the support package for Greece. The European Commission, IMF and ECB assess requests for support. The EFSF can start lending programmes during a three-year period. A loan is paid out in tranches and each tranche has to be paid back with interest. At the European summit on 21 July, government leaders and heads of state decided to make the EFSF instruments more flexible.[56] The technical implementation of the decisions taken at the European summit on 21 July is currently taking place.

European Stability Mechanism (ESM)

The ESM will succeed the temporary emergency mechanisms EFSF and EFSM starting in mid-2013. It has been agreed that the ESM will be given an authorised capital of €700 billion, of which €80 billion will be deposited and €620 billion will be callable capital. According to the ECB key, the Netherlands' share in this amount is 5.72%. The Dutch share in the callable capital, which is similar to a guarantee commitment and does not immediately result in cash expenditure, is €35.5 billion euro.

[55] See the minutes of the meeting of heads of state and government leaders of the euro-area countries of 21 July 2011, dated 25 July 2011, reference: BFB 2011-1523M.
[56] Again, see the minutes of the meeting of heads of state and government leaders of the euro-area countries of 21 July 2011, dated 25 July 2011, reference: BFB 2011-1523M.

The Netherlands will deposit approximately €915 million per annum in the period from 2013 to 2017 (i.e. paid-in capital totalling €4.6 billion). A convention will be drawn up to establish the ESM and the convention will be submitted to Dutch Parliament for ratification.

The ESM convention will state that the ESM and the EFSF together will not have more than 500 billion euro in lending capacity (unless unanimously decided otherwise by the Finance Ministers, in which case the Netherlands will need parliamentary approval). The Netherlands' share in the ESM (paid-in and callable capital) is fixed, however. As long as the EFSF is still handling lending programmes, the amount of the EFSF's ourstanding loans will not be available to increase the ESM's lending capacity.

The expenditure in terms of paid-in capital is included in the EMU-debt, but not in the balance. Dutch EMU-debt will also be negatively impacted when callable capital has to be paid in, which is actually implementation of the 'guarantee'.

B1.3.3 European Financial Stability Mechanism (EFSM)

Coming into effect on 13 May 2010, the European Financial Stability Mechanism (EFSM) is managed by the European Commission and has a total capital of €60 billion. It is a guarantee mechanism. The European Commission is authorised to borrow money for the facility on the capital market. The Member States act indirectly as guarantors through the EU budget in accordance with their share in the European budget. In principle, all EU Member States may draw on money from this fund (and – in the case of eurozone countries – from the EFSF as well). Any support provided must comply with strict policy conditions. The Member States using the EFSM must pay off the loans with interest. If a country fails to comply with its obligations towards the EFSM, the consequences will in principle be absorbed within the EU budget. If this does not prove to be entirely feasible, the Member States will be asked to contribute more to the EU budget in accordance with the GNI key, with the maximum contribution from a Member State to the EU budget being set at 1.23% of GNI. Transfers to the EU are charged to the EMU-balance. The Netherlands' share in the EU budget expenditure was 4.98% in 2010. The Dutch share in the guarantees is a maximum of €2.9 billion.

B.1.3.4. Guarantees for International Financial Institutions (IFI)

The international financial institutions make a targeted contribution to the development of low- and middle-income countries and to the stability of countries in difficulties and therefore the stability of the global economy as a whole. The Netherlands participates in the institutions and has issued guarantees that safeguard the proper functioning of the institutions. If there are problems in the global economy, the treasury runs the risk on guarantees issued to the international financial institutions. Furthermore, an IFI can submit a request for a capital increase, which increases the lending volume of the institution and has been used in the current crisis as an efficient way of fighting the crisis in borrowing countries.

Dutch guarantees on participating interests issued to international institutions (IFIs: IMF, EBRD, EIB and the World Bank)

The IFIs could withdraw these guarantees if they suffer so much damage on outstanding loans that the institution's capital position is in serious danger. However, there has never been a situation like that in the case of any of the IFIs, not even during the current crisis.

Public finances can be damaged if the IFIs are no longer able to comply with their financial obligations. In the case of the EIB and the EBRD, a very extreme situation would be required for this to happen. If such a situation occurs, it is likely that some Member States will no longer be

able to convert their guarantees into paid-in capital. In less serious situations where the institutions are experiencing capital problems, it is reasonable to assume that the decision will be taken to increase capital and reorganise policy, for instance, by reducing lending volumes or the level of risk-taking, as withdrawing guarantees gives a bad signal to the market and can ultimately endanger the institution's AAA rating. The situation outlined above also applies to the World Bank in the event that the global financial system collapses.

Established to safeguard global stability, the IMF has an extremely robust capital position. Rather than being provided by the government, the loans to the IMF are provided by the Dutch central bank (DNB). In return, the IMF pays DNB interest. In accordance with the Banking Act, the State acts as guarantor for DNB loans. The chance that the guarantee will be implemented is extremely small, because the IMF has its own resources and mechanisms to absorb any damage itself. Furthermore, the IMF has the implicit status of preferential creditor, which means that borrowing countries will pay back the IMF first if they are having difficulty meeting their commitments. To date, the IMF itself has always been capable of paying back lending countries, and the guarantees have never been implemented.

If the State guarantees were implemented, it would negatively impact both the EMU-balance and the EMU-debt. Capital increases are only charged to the debt.

B1.3.5 Export credit insurance (EKV)

Certain payment risks linked to exports and investments abroad cannot be insured – or at least not under acceptable conditions – on the commercial market. The State is in a position to cover some of these risks, however, partly because of its options for recovering damages. In the event of a sharp drop in the relevant global volume of trade and a greater degree of economic uncertainty, Dutch export companies may be affected.

Before accepting specific risks, the State conducts a rigourous check of factors such as country risk, debtor risk and the structure of the transaction. The State also uses the risk management framework to select, monitor and – to a limited extent – manage the risks associated with the facility. If something nevertheless goes wrong, an active debt collection policy will be pursued. In addition, a large portion of the damages paid out is recovered through the Paris Club.

The total exposure by virtue of the Dutch export credit insurance portfolio is currently €13.4 billion. A particular feature of this portfolio is that the risks involved persist into the long term.

In an extremely pessimistic scenario for the global economy, payment difficulties may occur in several countries on which export companies run risks. However, those kinds of dangers can be identified in good time and damage-limitation measures can be taken if the insured parties and the highest-risk countries are continually monitored as far as possible.

There is no direct quantifiable link between the outbreak of a global economic crisis, for example, and the subsequent drop in Dutch exports, on the one hand, and the impact this would have on the export credit insurance (EKV) portfolio on the other hand. Additional assumptions must therefore be made in order to approximate any negative effects on the EKV portfolio. It was assumed in this stress test that the chances of damage being sustained increase if a global economic crisis occurs because the crisis creates payment problems for the debtors in the portfolio. It is also assumed that global uncertainty increases the correlations between the chances of damage being sustained in the different countries. It should be remembered in this

regard that damages involving export credit insurance can be recovered, as a rule, at a later stage via the Paris Club.

The crisis has reduced the number of insurance opportunities on the commercial market. In response, the government has temporarily extended the scope of the EKV system and a number of new activities have been launched to absorb part of this extension. With the recovery of the financial markets and the global volume of trade it has now become possible to discontinue some of the measures taken during the crisis. The State's exposure to these new activities will quickly decrease down to zero. The experiences during the crisis show that it remains a possibility – in a pessimistic scenario for the world economy – that existing products will be used more or that new products will be introduced.

B.1.4 Other risks

This section covers possible risks in respect of the provision of subsureties when housing prices are falling and interest rates are increasing.

B1.4.1 National Mortgage Guarantee Scheme (NHG)

In 2010, just under 70% of mortgages were covered by the NHG scheme. The NHG scheme means that consumers are insured if they get into payment difficulties for non-culpable reasons. In order to conclude an NHG mortgage, the consumer pays a one-off premium of 0.55% of the amount of the mortgage. The premiums are used to build up a fund at the Owner-Occupied Housing Guarantee Fund (WEW). The fund currently amounts to more than €600 million. If consumers are no longer able to meet their mortgage commitments, the fund can be used instead. Accordingly, losses incurred are not directly charged to public finances. When the money in the fund is exhausted, the government will provide an interest-free loan. A loss of interest is therefore sustained on this loan and the government runs a credit risk. If housing prices fall by 25% and unemployment increases to 10%, it is expected that the capacity of the WEW fund will still be sufficient to pay for the damages from the fund. In the event of larger shocks, the NHG scheme will produce a larger EMU-debt.

B.1.4.2 Social Housing Guarantee Fund (WSW)

Finally, the government runs risks on the housing market through a guarantee to the Social Housing Guarantee Fund (WSW). The WSW guarantees the loans of housing corporations that can fund themselves a lot less expensively that way. This guarantee increases the corporations' ability to offer rented housing below market price to people on low and middle incomes. If a corporation has financial problems, the WSW can ask the corporation to take measures and ask the regulator (i.e. the Central Fund for Social Housing (CFV)) for support with reorganisation. The WSW has a reserve of €450 million to make damages payments if it is held accountable. If the reserve falls below approximately €200 million, the WSW may turn to the other corporations for an amount of €2.9 billion. Only if that also proves to be insufficient can money be drawn down from the back-up provided by the State and the municipalities (each provides 50%). The government must then provide interest-free loans to the WSW, which will create a higher EMU-debt as a result.

Appendix 2: Overview of guarantees provided by the State for 2012

Explanatory notes

Guarantees
A guarantee is described as a conditional financial obligation on the part of the State to a third party outside the State that only becomes due and payable if a certain circumstance occurs for the other party (i.e. a risk actually materialises in practice). Guarantee schemes are usually included as liabilities in the budget of the relevant line ministry.

Table B2 lists the State's guarantee schemes. All schemes exceeding €100 million are broken down into their different parts and all schemes under €100 million are summarised under the heading 'other'.

A State guarantee scheme almost always has a ceiling, which can be *annual* (i.e. a maximum risk amount can be provided per annum) or *total* (i.e. the risk amount provided may never exceed the ceiling). Table B2 differentiates between these two types of ceiling. The amount up to the ceiling actually provided as a risk amount is called the *implemented risk* in the table.

Table B3 looks at the accompanying expenditure and income. The expenditure shown in the table relates to the damages payouts under issued guarantees. The income shown in the table consists of both premiums or fees and the like, and payments (including damages payments) recovered from third parties.

Provision of subsurety

In addition to the risk from guarantee schemes, the State is also indirectly exposed to risks from subsureties. In this case, the actual guarantee commitment is not issued by the State, but by an intermedary appointed to do so (e.g. a foundation). The State will only be held accountable if the intermediary is not able to meet its commitments. These subsureties are not included as a liability in the budget for the relevant line ministry (as long as no damage is caused because of the subsurety). The subsureties are listed in Table B4 and are quantified based on figures from adopted annual reports published by the relevant intermediary. No figures have therefore been included in Table B4 for 2011 and 2012.

Precise details about guarantee schemes and subsureties can be found in the budgets and annual reports of the line ministries concerned; the tables indicate the budgets and budget articles in which the various schemes are included.

Table B2 Guarantees provided by the State (in millions of euro)

Ch.	Art.		Implemented risk in 2010	Already estimated for issue in 2011	Already estimated to lapse in 2011	Implemented risk in 2011
Guarantee on credit						
V	24	IS-NIO development aid guarantees	273.6	0.0	35.9	237.7
VI	23	Safety Regions and Police	1,404.9	700.0	0.0	2,104.9
VIII	14	Subsurety agreement	163.8	35.0	13.0	185.8
IXB	2	Inter-bank loans guarantee	38,998.0	0.0	5,787.9	33,210.1
IXB	4	DNB BIS credit	0.0	113.4	0.0	113.4
IXB	4	EFSF	25,872.0	30,039.0	0.0	55,911.0
IXB	4	EFSM	2,946.0	0.0	0.0	2,946.0
IXB	4	Credit for EU balance of payments support to Member States	2,457.5	0.0	0.0	2,457.5
XIII	13	SMEs Credit Guarantee Decree (BBMKB)	2,230.7	1,000.0	400.0	2,830.7
XIII	13	Credit Guarantee Scheme (GO)	858.9	824.0	250.0	1,432.9
XIII	13	Growth financing facility	63.7	170.0	0.0	233.7
XIII	13	Shipping new build guarantee regulation	0.0	1,000.0	0.0	1,000.0
XIII	14	COVA natural gas fund	1,325.0	0.0	0.0	1,325.0
XIII	16	Guarantee for investment and working capital of agricultural enterprises	477.9	70.0	65.0	482.9
XIII	18	Guarantee for nature reserves and landscapes	479.9	0.0	14.4	465.5
XVI	42	Healthcare institutions	689.6	0.0	57.4	632.2
XVI	42	Facilities for the handicapped	204.1	0.0	17.7	186.4
A	13	Prorail	380.4	0.0	35.0	345.4
		Other	1,564.5	184.6	143.9	1,605.2
		Total guarantees on credit	**80,390.4**	**34,136.0**	**6,820.1**	**107,706.3**

Table B2 (continued)

Guarantee on participating interests						
V	24	Guarantees	119.3	0.0	0.0	119.3
V	24	Regional Development Banks Guarantees	1,949.6	0.0	0.0	1,949.6
IXB	3	Guarantee and indemnity for sale of participating interests	1,029.4	0.0	0.0	1,029.4
IXB	4	DNB – participation in IMF capital	28,792.8	4,142.0	0.0	32,934.8
IXB	4	EBRD	365.8	223.3	0.0	589.1
IXB	4	EIB	9,895.5	0.0	0.0	9.895.5
IXB	4	The World Bank	3,025.7	0.0	0.0	3,025.7
		Other	26.4	0.0	0.0	26.4
		Total guarantees on participating interests	**45,204.6**	**4,365.3**	**0.0**	**49,569.9**
Guarantee for difficult to insure/uninsurable risks						
VIII	14	Indemnity scheme	287.0	613.0	600.0	300.0
IXB	2	Nuclear Incidents (Third Party Liability) Act (WAKO) (nuclear incidents)	14,023.0	0.0	0.0	14,023.0
IXB	3	Participating interest in ABN AMRO	950.0	0.0	0.0	950.0
IXB	5	Export credit insurance (EKV)	13,438.4	11,332.3	11,332.3	13,438.4
IXB	5	Investment Guarantees Scheme	213.8	453.8	453.8	213.8
		Other	134.7	48.9	20.7	162.9
		Total guarantees for difficult to insure/uninsurable risks	**29,046.9**	**12,447.9**	**12,406.7**	**29,088.1**
Other guarantees, including:						
VIII	7	Building loans for teaching hospitals	295.7	0.0	14.4	281.3
IXB	7	Claim ceiling for State Property and Development Agency (RVOB)	155.5	0.0	0.0	155.5
		Other	112.0	0.3	44.7	67.6
		Total other guarantees	**563.2**	**0.3**	**59.1**	**504.4**
		TOTAL guarantees from the State	**155,205.1**	**50,949.5**	**19,285.9**	**186,868.7**
		GDP	588.4			604.9
		TOTAL as a percentage of GDP	26.4%			30.9%

Table B2 (Continued)	Guarantee ceiling 2011	Already estimated for issue in 2012	Already estimated to lapse in 2012	Implemented risk	Guarantee ceiling 2012	Total ceiling
	0.0	0.0	34.0	203.7	0.0	203.7
	0.0	0.0	0.0	2,104.9	0.0	2,104.9
	0.0	30.0	14.0	201.8	0.0	680.0
	0.0	0.0	14,110.9	19,099.1	0.0	38,998.0
	113.4	113.4	113.4	113.4	113.4	0.0
	0.0	0.0	0.0	55,911.0	0.0	55,911.0
	0.0	0.0	0.0	2,946.0	0.0	2,946.0
	0.0	0.0	0.0	2,457.5	0.0	2,457.5
	1,000.0	705.0	400.0	3,135.7	705.0	0.0
	0.0	0.0	250.0	1,182.9	0.0	1,432.9
	170.0	170.0	0.0	403.7	170.0	0.0
	1,000.0	1,000.0	0.0	2,000.0	1,000.0	0.0
	0.0	0.0	0.0	1,325.0	0.0	1,325.0
	209.0	80.0	65.0	497.9	130.0	0.0
	34.5	0.0	12.9	452.6	34.4	0.0
	0.0	0.0	55.7	576.6	0.0	576.6
	0.0	0.0	12.8	173.6	0.0	173.6
	0.0	0.0	31.8	313.6	0.0	313.6
	70.3	8.0	8.5	1,604.7	73.3	2,265.0
	2,597.2	**2,106.4**	**15,109.0**	**94,703.7**	**2,226.1**	**109,387.7**

0.0	0.0	0.0	119.3	0.0	119.3
0.0	0.0	0.0	1,949.6	0.0	1,949.6
0.0	0.0	0.0	1,029.4	0.0	1,029.4
0.0	0.0	0.0	32,934.8	0.0	32,934.8
0.0	0.0	0.0	589.1	0.0	589.1
0.0	0.0	0.0	9,895.5	0.0	9.895.5
0.0	174.7	0.0	3,200.4	0.0	3,200.4
0.0	0.0	0.0	26.4	0.0	26.4
0.0	**174.7**	**0.0**	**49,744.6**	**0.0**	**49,744.6**

0.0	600.0	600.0	300.0	0.0	300.0
0.0	0.0	0.0	14,023.0	0.0	14,023.0
0.0	0.0	0.0	950.0	0.0	950.0
11,332.3	10,000.0	10,000.0	13,438.4	10,000.0	0.0
453.8	453.8	453.8	213.8	453.8	0.0
150.0	5.5	2.7	165.8	150.0	183.8
11,786.1	**11,059.3**	**11,056.4**	**29,091.0**	**10,453.8**	**15,456.8**
0.0	0.0	19.0	262.4	0.0	295.7
0.0	0.0	0.0	155.5	0.0	207.0
0.0	0.3	2.6	65.2	0.0	67.2
0.0	**0.3**	**21.5**	**483.1**	**0.0**	**569.9**
14,383.3	**13,340.7**	**26,187.0**	**174,022.4**	**12,679.9**	**175,159.0**
			623.0		
			27.9%		

Table B3 Income and expenditure on the guarantees issued by the State (in thousands of euro)

Ch.	Ministry	Expenditure 2011	Income 2011	Balance 2011	Expenditure 2012	Income 2012	Balance 2012
IV	Kingdom Relations	0.0	0.0	0.0	0.0	0.0	0.0
V	Foreign Affairs	6,000.0	0.0	-6,000.0	6,000.0	0.0	-6,000.0
VI	Security and Justice	560.0	0.0	-560.0	692.0	0.0	-692.0
VII	Interior and Kingdom Relations	0.0	0.0	0.0	0.0	0.0	0.0
VIII	Education, Culture and Science	0.0	0.0	0.0	0.0	0.0	0.0
IXB	Finance	147,545.0	494,646.0	347,101.0	126,445.0	392,639.0	266,194.0
XII	Infrastructure and the Environment	0.0	0.0	0.0	0.0	0.0	0.0
XIII	Economic Affairs, Agriculture and Innovation	142,377.0	103,230.0	-39,147.0	114,459.0	102,230.0	-12,229.0
XV	Social Affairs and Employment	500.0	25.0	-475.0	500.0	0.0	-500.0
XVI	Health, Welfare and Sport	0.0	0.0	0.0	0.0	0.0	0.0
A	Infrastructure Fund	0.0	0.0	0.0	0.0	0.0	0.0
	Total	**296,982.0**	**597,901.0**	**300,919.0**	**248,096.0**	**494,869.0**	**246,773.0**

Table B4 Subsureties issued by the State (in millions of euro)

Ch.	Art.	Description	Guaranteed risk 2009	Guaranteed risk 2010	Buffer capacity 2010
XVI	42	Subsurety for Healthcare Guarantee Fund	8,071.2	8,441.3	463.9
VII	3	Subsurety for Owner-Occupied Housing Guarantee Fund (WEW) (NHG)	108,879.0	126,422.0	643.0
VII	3	Subsurety for Social Housing Guarantee Fund (WSW)	75,800.0	85,300.0	472.0
		Total Subsureties	**192,750.2**	**220,163.3**	**1,578.9**

Finally, it should be noted that the risk from the subsureties (from Table B4) cannot be compared one-on-one with the risk from the guarantee schemes (from Table B2). When a subsurety is issued, it is sometimes shared with municipalities (i.e. in the case of the WEW (until the end of 2010) and then the WSW) or the intermediary concerned (i.e. the foundation) may possess substantial buffer capital that can be used to cover a large portion of the damage before the State is held accountable (see buffer capacity column). In the case of the WSW, there is also the extra difference that the State is not held accountable until after the housing corporations.

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